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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,156	12/18/2001	David E. Fredericksen	13477	5773

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11/06/2002

ILLINOIS TOOL WORKS

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EXAMINER

PARKER, FREDERICK JOHN

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 11/06/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,156

Applicant(s)

Examiner

Group Art Unit

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 4/4/02
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-21 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-21 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for powder coating *PLASTIC* articles, does not reasonably provide enablement for powder coating any substrates, e.g. metallic, ceramic, etc. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to carry out the invention commensurate in scope with these claims. See [0001], [0007], [0022].

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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- Claims 1-19: "article" (singular) lacks antecedent basis, and it is unclear to which single article of the plurality of "articles" the term refers.
- Claim 1 line 3, it is unclear if the article coated is the preheated article or another of the plurality of articles.
- Claim 6 is vague and indefinite because on line 2, it is unclear if this refers to the bare article, coated article, etc.
- Claim 18, line 4, it is unclear if the article coated is the preheated article or another of the plurality of articles.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4,14,17 are rejected under 35 U.S.C. 102(b) as being anticipated by Leach US 5338578.

Leach teaches powder coating reinforced plastic resin substrates comprising steps of: washing/ cleaning substrates followed by drying to remove wash water

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(per claims 2-4) and heating the cleaned article to a temperature to cause degassing at a temperature of at least the melting point of the powder to be applied; powder coating "by any conventional powder coating technique" whereas the powder melts and flows at the surface; and then further heating at elevated temperatures above the powder cure temperature to initiate cross-linking and curing. See column 4, 61 to col. 5, 45. Powder coating materials include epoxy, polyester, and acrylic powder coating resins. It is inherent that the final, cured powder coated product remain undistorted or melted to maintain its viability as a coated product, which is clearly the case in Leach, such that the temperatures cited must be less than the melting point of the plastic substrate. Since the coating methods include fluidized bed or spraying, it is apparent electrostatics are not essential, and there would have been no necessity for grounding the plastic substrates per claims 14 and 17.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having

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ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 5-11,18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leach.

Leach is cited for the same reasons discussed above, which are incorporated herein. Cooling of the cured coated article and plural coatings are not taught. However, as to claim 5, cooling of the article would have been an obvious necessity within the purview of one of ordinary skill in the art in order to give the final article utility, since clearly a heated coated article in an oven has no utility. The conclusion of obviousness may be based upon "common knowledge" and "common sense" of the person of ordinary skill, *In re Bozek* 163 USPQ 545.

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Regarding claims 6-11 and 18-19, Leach does not explicitly teach the detailed steps of claim 6 for a second coating. However, Leach does disclose on column 6, 13+ that optionally an additional resin coating comprising acrylics, polyesters, etc may be applied, without further limitation. These are the same materials applied by the multi-step coating process discussed above, e.g preheating, coating application, and heating to cure/ cross-link the coating. Thus, the reference discloses applying a second coat without limitation as to method, and applying a first coat of the same/ similar composition. Thus, since the coated substrate is still a plastic substrate, it is the Examiner's position that one of ordinary skill would have recognized the utility of applying a second coating onto the coated substrate using coating steps similar to the first coating in order to achieve the recognized benefits of high gloss finish and a surface free of defects due to trapped gasses.

Regarding claims 15-16, Leach teaches to use carboxylic acid group-containing polyester coating powders (col.3, 50-55) which is synonymous with Applicants' "carboxyl polyester". Leach also teaches on the bottom of column 6 that curing times and temperatures vary depending on the powder coating composition, e.g. at least 250 F, preferably 250-375F; further, preheating is carried out at 150-300 F (col. 4, bottom). These ranges overlap or are close to

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those of claims 15-16. (1) The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made if the overlapping portion of the ranges disclosed by the reference were selected because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Wortheim* 191 USPQ 90. Differences such as a curing temperature of "about 400 F" are obvious variations which reflect either differences in coating material, substrate size, etc or the fact that time/temperature are related cause-effective variables such that equivalent results can be obtained by simply increasing times at lower temperatures, or vice-versa. Thus such variations do not patentably distinguish over the prior art because they are variations within the purview of one of ordinary skill. It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the method of Leach and to modify times, temperatures, and other conventional variables to achieve a desired end coating because such variations would have been within the purview of one of ordinary skill.

10. Claim 12-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Leach in view of Anderson et al US 5516551.

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Leach is cited for the same reasons discussed above, which are incorporated herein. Application of the powder by electrostatic spraying is not cited.

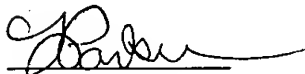
Anderson et al teaches a similar method of powder coating reinforced plastic substrates with similar coating powders in which the substrate is preheated, resin powder is applied to a preheated substrate below the powder cure temperature, and then heating the powder coated substrate at or above the curing temperature for a time sufficient to substantially cure the powder (col. 4, 63-col. 5, 15. It is also explicitly noted that temperatures used must not degrade, deform, or damage the articles. Powder is applied "in any conventional manner such as by spraying and preferably by electrostatically applying the powder coating". Since Leach teaches to apply the powder by conventional methods, and Anderson et al teaches the conventionality of applying such powders to similar substrates by electrostatic powder coating, it would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the method of Leach by using electrostatic powder coating means as taught by Anderson because such means are demonstrated to be conventional for applying such powders to the plastic substrates.

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11. Claims 20-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Leach.

Leach is cited for the same reasons discussed above, which are incorporated herein. The cured powder coated article of Leach would have been expected to be the same as, or only slightly different from, the articles of the product by process claims. Determination of a product is based upon the product itself and not by the method of production. See MPEP 2113.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred J. Parker whose telephone number is (703) 308-3474.



Fred J. Parker

**FRED J. PARKER
PRIMARY EXAMINER**

October 9, 2002

10-025156